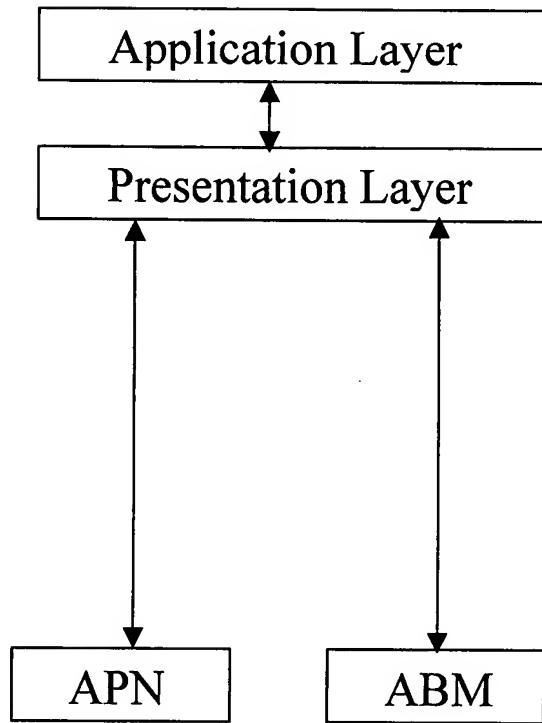
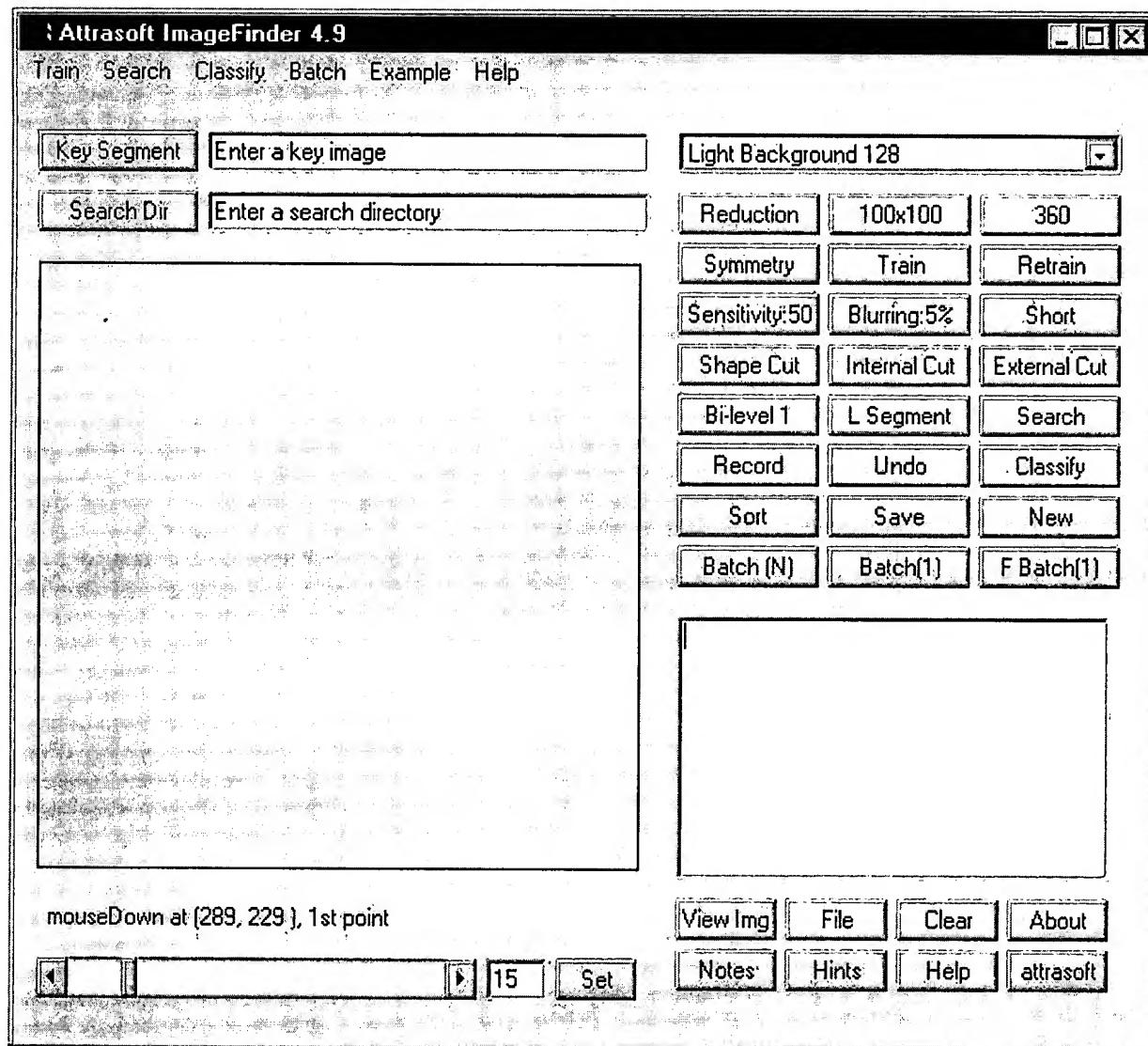


**Figure 1.**



**Figure 2.**



**Figure 3.**

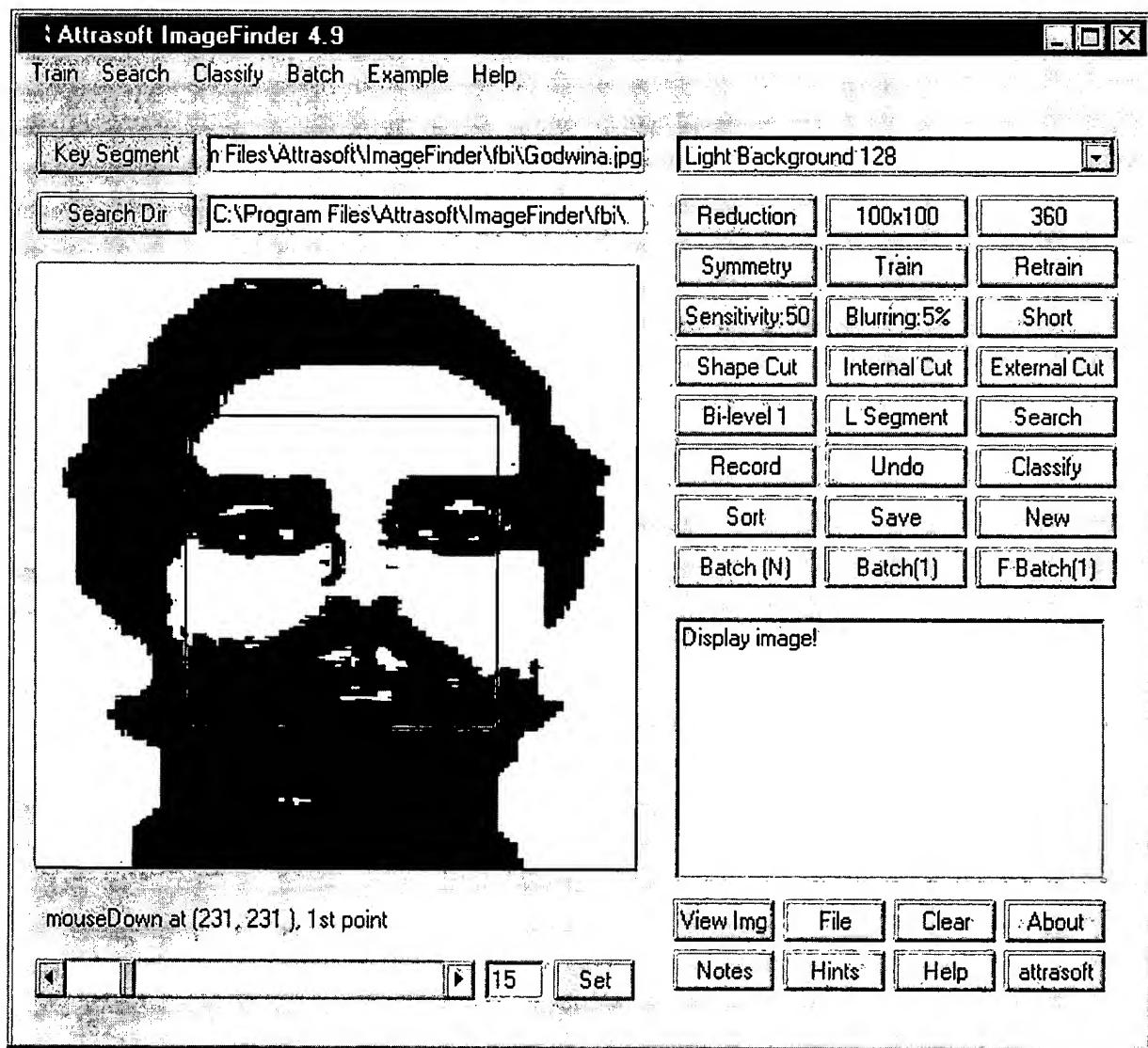
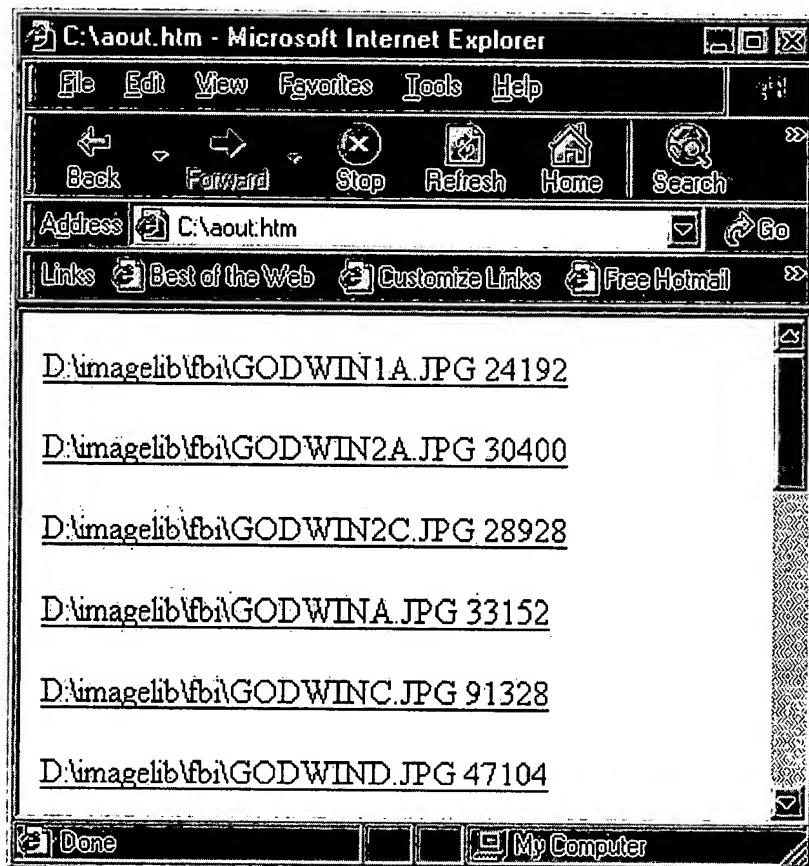


Figure 4.

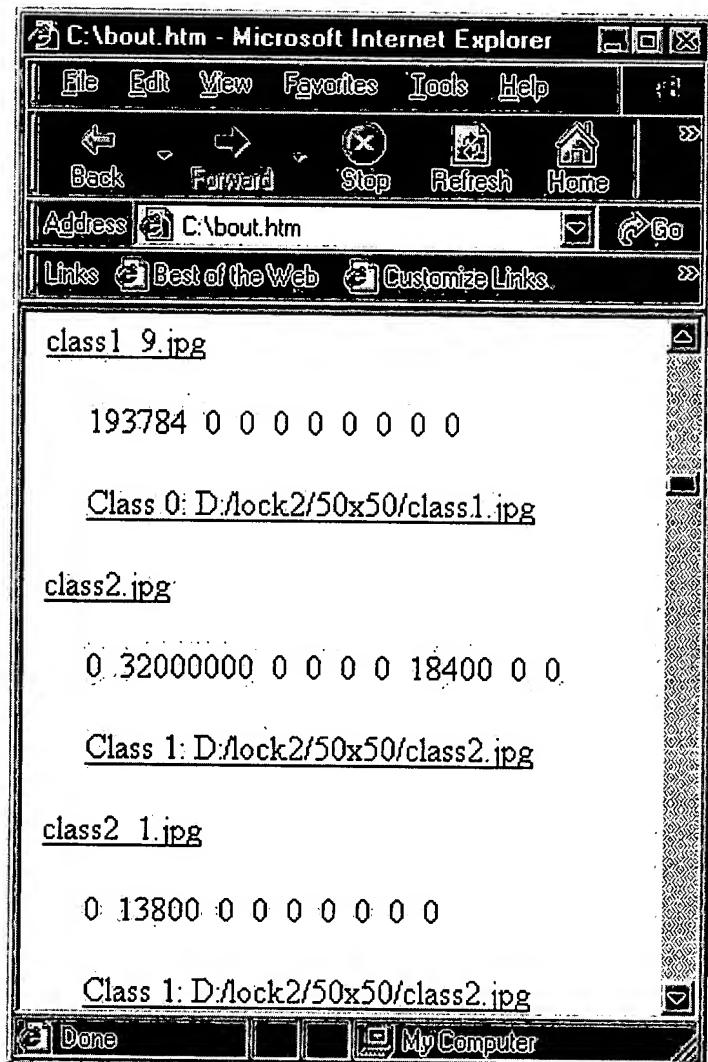
Annotated



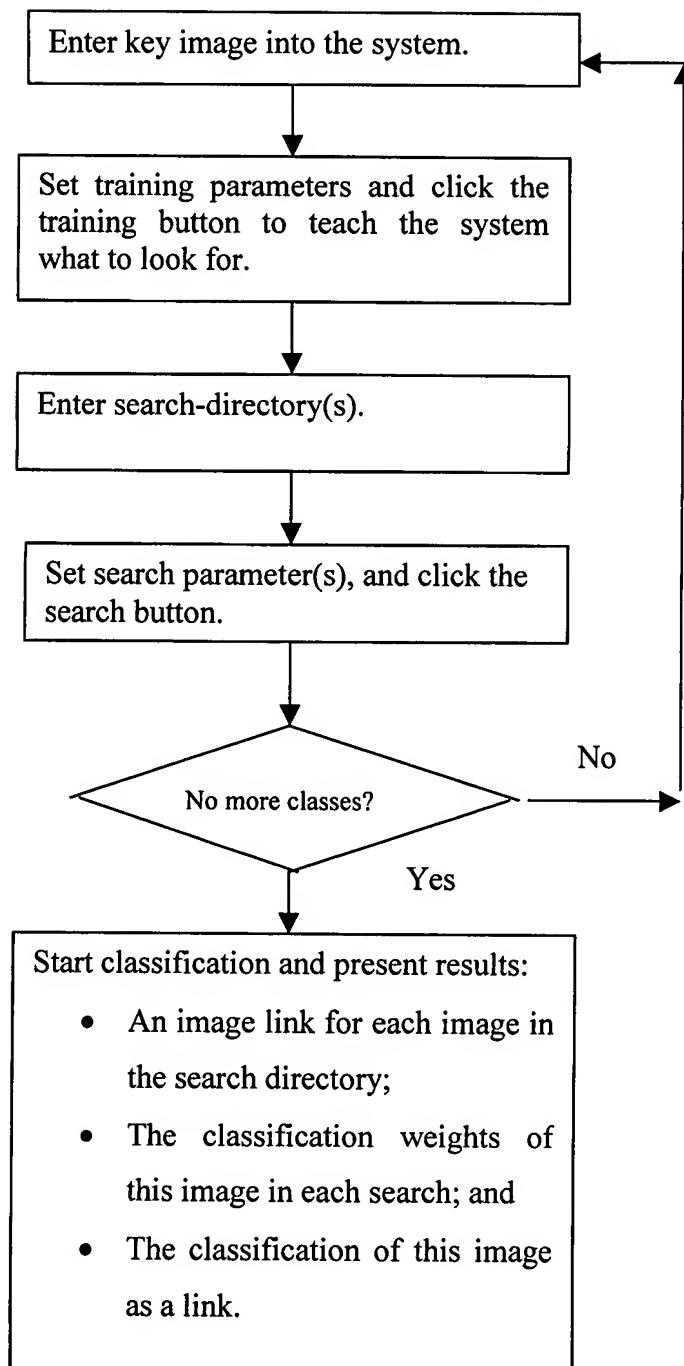
Images

Scores

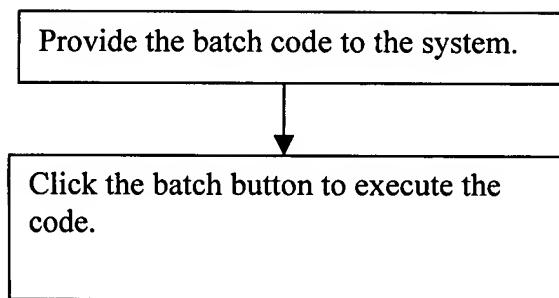
Figure 5.



**Figure 6.**



**Figure 7.**



**Figure 8.**

Combine an image and its classification into a vector.



All such together form a mathematical configuration space. Each point in such a space is called a state.



A Markov chain exists in such a space where the state of the configuration space is a state of the Markov chain.

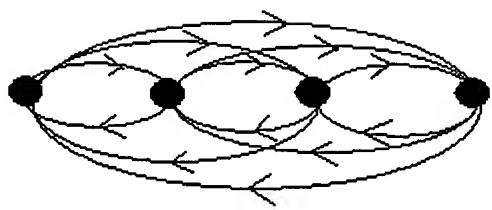


The construction of such a Markov chain is by a particular type of neural network, called ABM network or APN network.

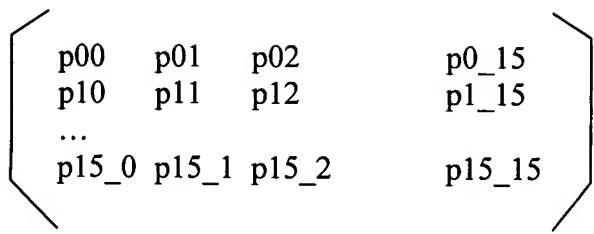


The Markov chain will settle on its invariant distribution. A distribution function is deployed to describe such a distribution. In particular, such a distribution function classifies the images.

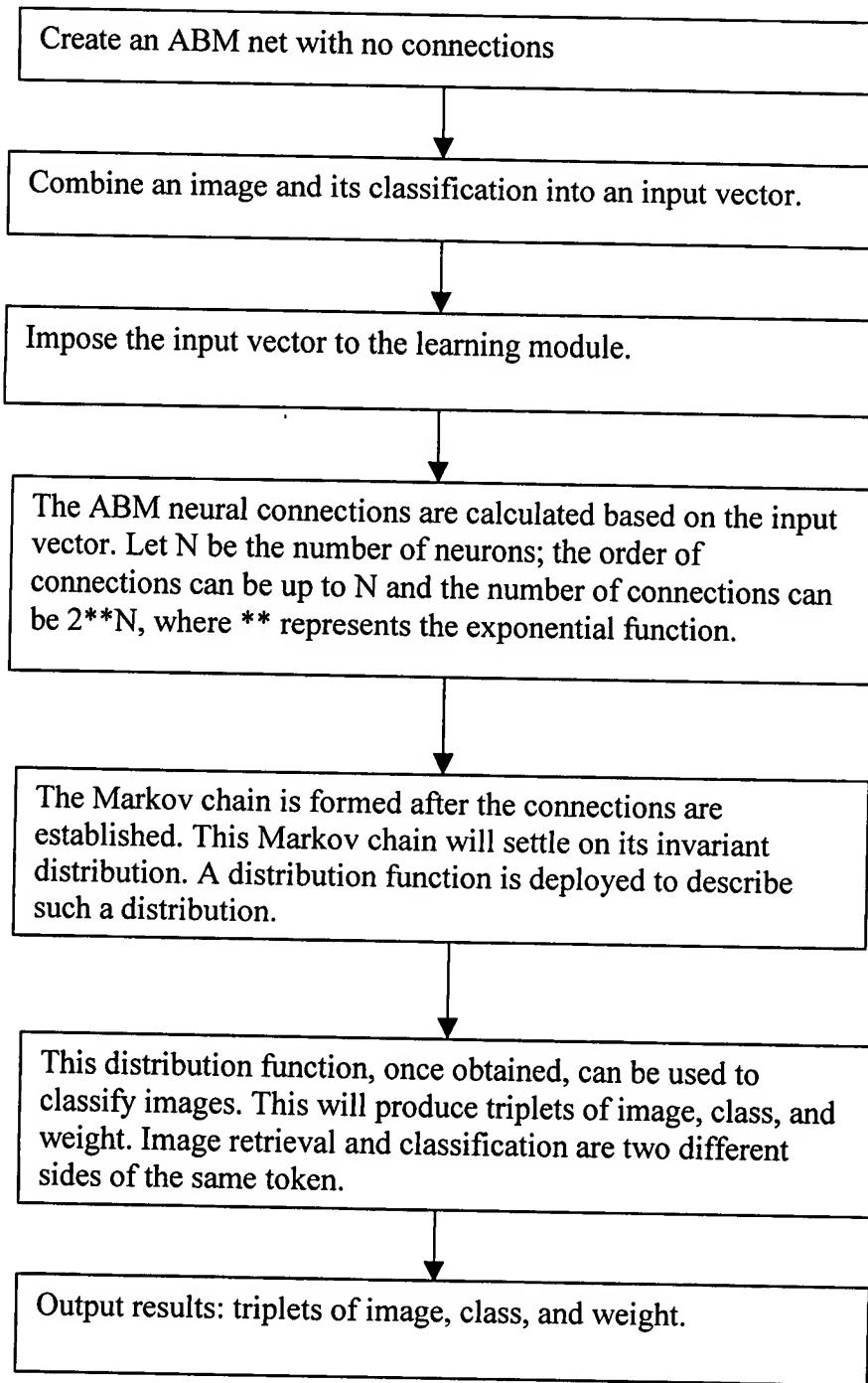
**Figure 9.**



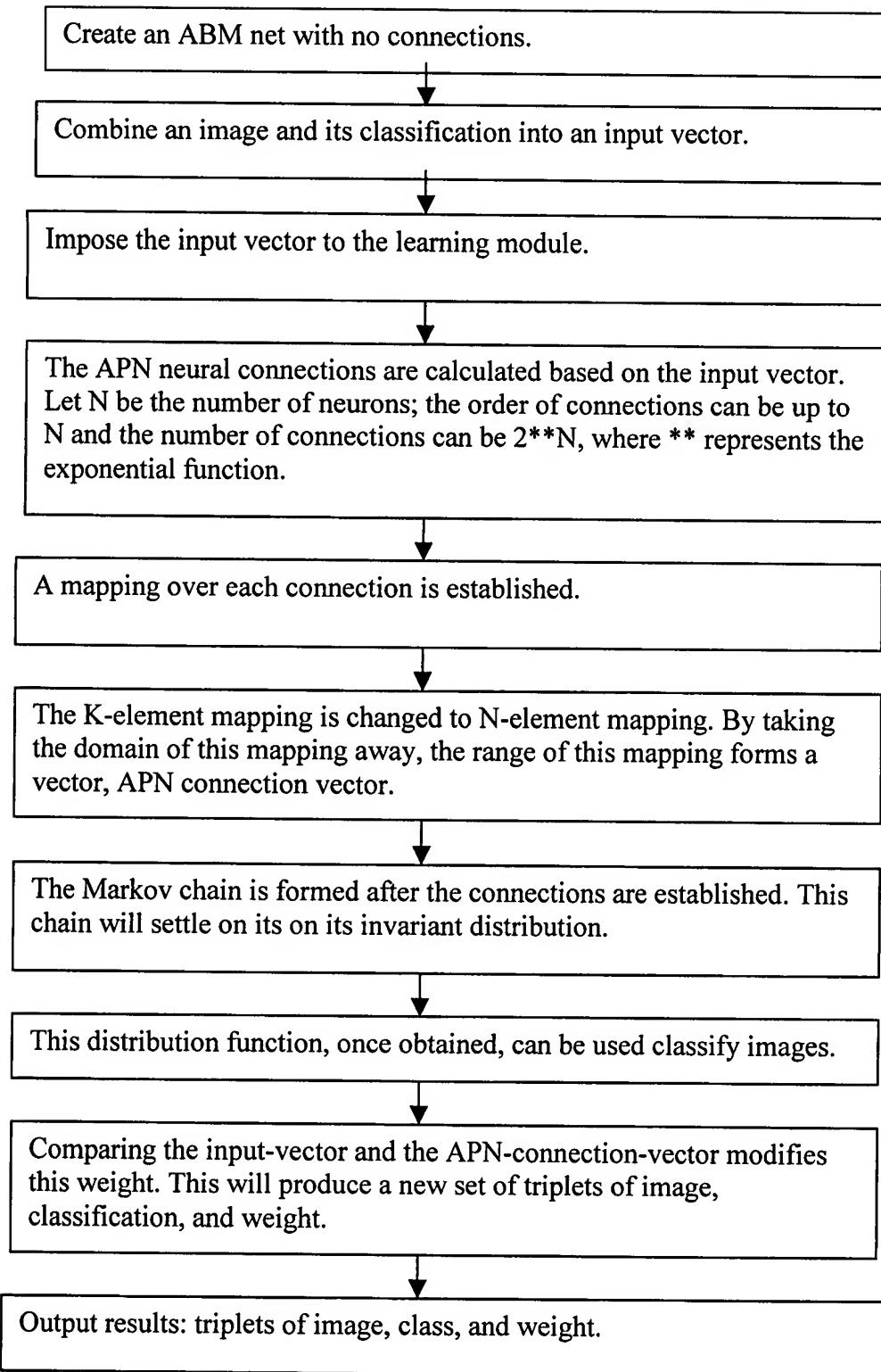
**Figure 10.**

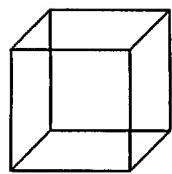


**Figure 11.**

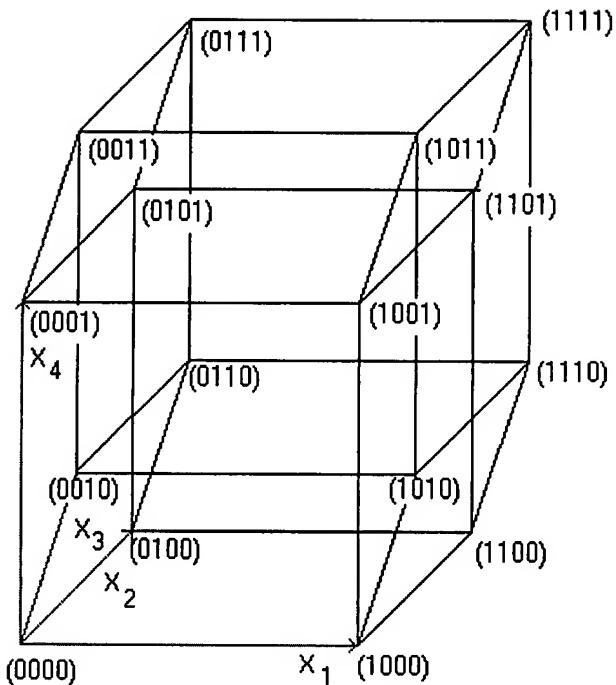


**Figure 12.**

**Figure 13.**

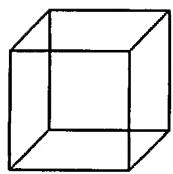


(a)

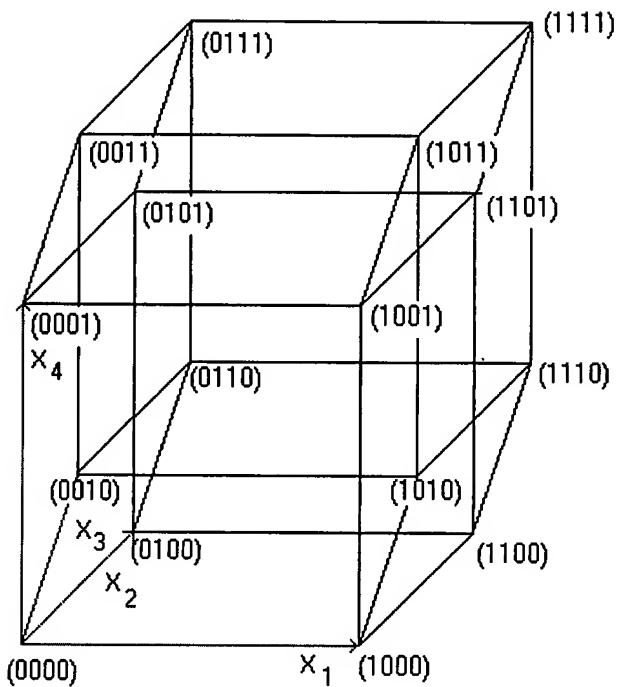


(b)

Figure 14.



(a)



(b)

Figure 15.

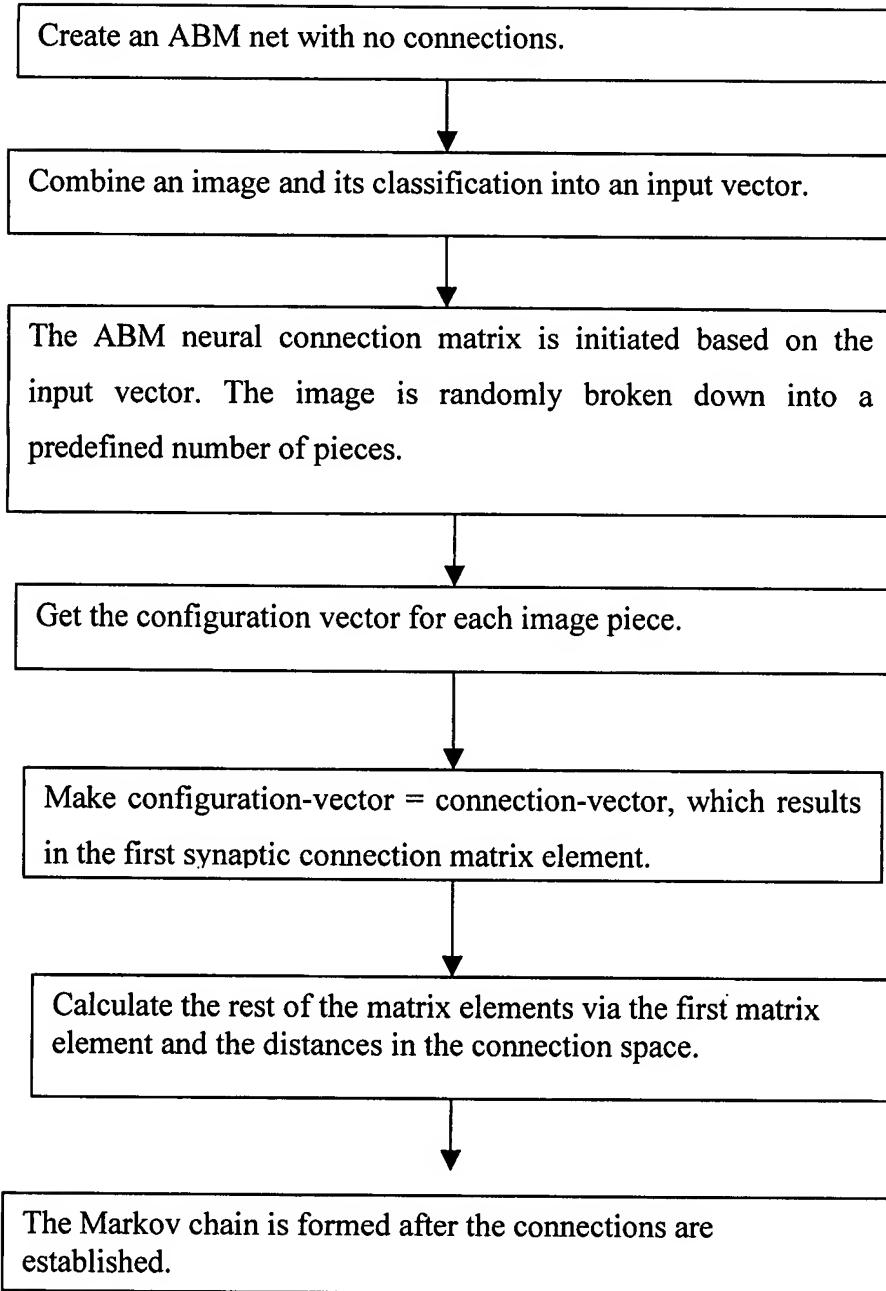


Figure 16. (a)

ABM Learning Algorithm in Figure 16 (a).



For each connection, add an additional mapping.

Figure 16. (b)

**Figure 16.**

An image to be classified is imposed on the Markov Chain.



This Markov chain will settle on its invariant distribution. A distribution function is deployed to describe such a distribution.

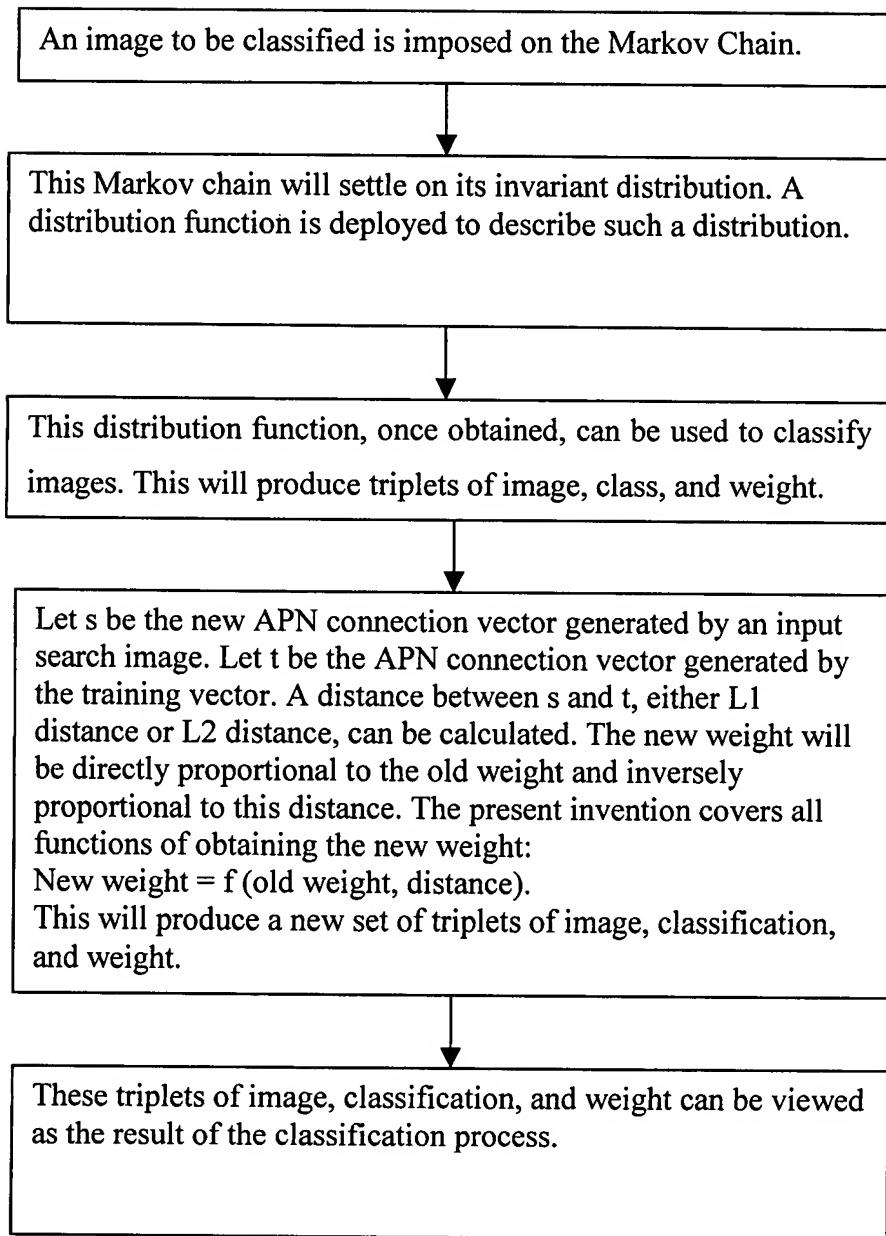


This distribution function, once obtained, can be used to classify images. This will produce triplets of image, class, and weight.



These triplets of image, classification, and weight can be viewed as the result of the classification process.

**Figure 17.**



**Figure 18.**